

ON THE SYNONYMY OF *HELIX (HADRA) GULOSA*,
GOULD.

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The subject of this present contribution, *Helix (Hadra) gulosa*, Gould, was first obtained by me at Port Hacking and other places included in, and now known as, the National Park in 1859-1860; also between Cook's and George's Rivers, at places now called Kogarah, Rockdale, and Hurstville, then known as Gannon's Forest, and at Bulli Pass in 1864, 1865, 1866. Specimens were named and submitted in 1868 to Messrs. George French Angas and Henry Adams for identification, and were duly returned as identical with *H. gulosa* as defined by Gould in 1846. Gould's specimens were first obtained by Mr. J. Drayton, of the United States Exploring Expedition, in the Illawarra district in the year 1839, and were re-described by Pfeiffer in 1847 as *H. coriaria* from specimens reputed to have come from Ceylon. The shell was next characterised by Morelet in 1853, under the title *H. morosa*, as coming from Moreton Bay; and in 1859 Pfeiffer, under the name of *H. coriaria*, originally described from Ceylon by himself, in 1847, recorded this species as occurring in Western Australia. Gould, in the *Otia Conchologica* in 1862, p. 243, suggests a new generic name, *Badistes*, for his *H. gulosa*. In the same year this author also published an account of the occurrence of the species in Australia. In 1864 Dr. Cox re-described *H. gulosa* under two distinct specific designations, viz., *H. Mastersi* and *H. Scotti*, the former regarded by him as an intermediate form between *H. Grayi*, Pfr., and *H. Jervisensis*, Quoy and Gaimard.

Four years subsequently, 1868, Pfeiffer sinks *H. gulosa* as merely a synonym of *H. Lessoni*, disregarding Cox's supposed species.

Pfeiffer, in the *Nomenclator Heliceorum Viventium* in 1881 drops the specific name *gulosa* as synonymic with *Lessoni* from Port Curtis and reinstates the species under the sub-generic title *Badistes*. Paetel, in his *Catalog der Conchylien-Sammlung*, 1889, makes *H. gulosa* synonymic with *Lessoni*, Pfr. The latest published account of this species in question is that by Mr. H. A. Pilsbry, in Tryon's *Manual Conchology* (second series *Pulmonata*, vol. vi., 1890), where this author evidently is inclined to regard *H. coriaria*, *H. Scotti*, *H. monacha*, and *H. morosa* as merely varietal forms of the original *H. gulosa*, Gould.

In the following paper I have enumerated a complete synonymy of *H. gulosa*, Gould; and from the examination of a very large number of specimens, both living and dead, I cannot hesitate to confirm Pilsbry's surmise that *H. coriaria*, *H. Scotti*, *H. monacha*, *H. morosa* are undoubtedly identical with *H. gulosa*, Gould. It is some years since I came to the conclusion that Dr. Cox's species, *Mastersi* and *Scotti*, were not good species. According to Drayton, as mentioned by Gould (*U. S. Exploring Expedition*, vol. xii. p. 65, 1852), the living animal does not glide from place to place as other *Helices*, but proceeds by flexing the foot in an undulating manner, and on this account Gould, in 1862, bestowed upon the species the sub-generic name *Badistes*. Having examined many hundreds of living specimens, both in their natural haunts and in confinement, I am compelled to contradict the statement that this mollusc "flexes the foot;" it moves in the ordinary gliding manner. I find that I made a marginal note to this effect in 1879 in a copy of Gould's *Otia Conchologica*, kindly presented to me by my valued friend and correspondent, Mr. John Howland Thomson, C.M.Z.S., New Bedford, U.S.A. Consequently, as pointed out by me to my young friend, Mr. Chas. Hedley, who has lately commenced to write upon the Australian Land Mollusca, and is about to publish an account of the anatomy of this species, the sub-genus *Badistes* has been created under an erroneous impression, and in my opinion *H. gulosa*, Gould, is attributable to the old sub-genus *Hadra*, as placed by Pilsbry. I have seen specimens of this species exhibited

before this Society as large varieties of *H. Grayi*, Pfr., from Bottle Forest.

Hanley and Theobald, in their *Conchologia Indica*, state that Australian specimens cannot be distinguished from the shell delineated in their figure; to my eye the figure indicates dwarf specimens found by me on Comerong Island, Shoalhaven. The species may have been introduced into the Island of Ceylon in boxes of plants taken from New South Wales, specimens having, perhaps, been sent by the late Sir William Denison, when Governor of N.S.W., to the Indian Museum, as that gentleman was constantly contributing specimens to the Indian colony.

HELIX (HADRA) GULOSA, GOULD.

- 1846. *Helix gulosa*, Gould, Proc. Boston Soc. Nat. Hist., vol. II. p. 165; Expedition, Shells, p. 17
- 1847. *H. coriaria*, Pfeiffer, Zeitschr. f. Mal., p. 145
- 1847. *H. coriaria*, Pfeiffer in Martini and Chemnitz Conch. Cab., 2nd edition (Kuster), p. 265, pl. 120, fig. 1-2
- 1848. *H. gulosa*, Gould, Pfeiffer in Monogr. Hel. Viv., Vol. I. p. 339
- 1848. *H. coriaria*, Pfeiffer, Monogr. Hel. Viv., Vol. I. p. 445, sp. 501A
- 1852. *H. gulosa*, Gould, United States Exploring Expedition, Mollusca and Shells, Vol. XII. pp. 64, 65, pl. 3, fig. 43, animal with shell; 43A, the aperture; 43B, the base of the shell
- 1852. *H. gulosa*, Gould, Forbes in Appendix to Macgillivray's Voyage of H.M.S. Rattlesnake, Vol. II. p. 370, No. 32
- 1852. *H. coriaria*, Reeve in Conch. Icon., Helix, Vol. VII. pl. 79, fig. 417
- 1853. *H. gulosa*, Gould, Pfeiffer in Monogr. Hel. Viv., Vol. III. p. 229, No. 1302

1853. *H. morosa*, Morelet, Journal de Conchyl., Vol. iv. p. 369, pl. 11, fig. 15
1853. *H. coriaria*, Pfeiffer, Monogr. Hel. Viv., Vol. iii. p. 150, No. 795
1855. *Lucerna* (*Serpentulus*) *gulosa*, H. and A. Adams, Genera of recent Mollusca, Vol. ii. p. 201
1859. *H. coriaria*, Pfr., Tennent, Ceylon, an Account of the Island—Physical, Historical, and Topographical—with Notices of its Natural History, Vol. i. p. 238
1859. *H. coriaria*, Pfeiffer, Monogr. Hel. Viv., Vol. iv. p. 167, No. 1049
1859. *H. gulosa*, Gould, Pfeiffer in Monogr. Hel. Viv., Vol. iv. p. 248; quotes it as a synonym of *H. Lessoni*, Pfr.
1859. *H. morosa*, Morelet, Pfeiffer in Monogr. Hel. Viv., Vol. iv. p. 248, No. 1599
1859. *H. monacha*, Pfeiffer, Proc. Zool. Soc. London, p. 25, pl. 43, fig. 7
1860. *H. (Hadra) morosa*, Albers, Die Heliceen, p. 166
1861. *H. curvata*, Pfr., Tennent, Natural History of Ceylon, p. 321
1862. *H. gulosa*, Gould, Otia Conchologica, p. 17
1862. *H. (Eudistes) gulosa*, Gould, Otia Conchologica, p. 243
1864. *H. monacha*, Cox, Catalogue of Australian Land Shells, p. 16, No. 77
1864. *H. gulosa*, Gould, Cox, Catalogue of Australian Land Shells, p. 18, No. 97
1864. *H. Münsteri*, Cox, Annals and Mag. Nat. Hist., 3rd series, Vol. xiv. p. 181, No. 6; Catalogue of Australian Land Shells, p. 19, No. 105
1864. *H. Scotti*, Cox, Catalogue of Australian Land Shells, p. 36, No. 119

1868. *H. coriaria*, Pfeiffer, Monogr. Hel. Viv., Vol. v. p. 236, No. 1428
1868. *H. Mastersi*, Cox, Pfeiffer in Monogr. Hel. Viv., Vol. v. p. 237, No. 1431
1868. *H. monacha*, Pfeiffer, Monogr. Hel. Viv., Vol. v. p. 278, No. 1785
1868. *H. gulosa*, Gould, Pfeiffer in Monogr. Hel. Viv., Vol. v. p. 320; quotes it as a synonym of *H. Lessoni*, Pfr.
1868. *H. morosa*, Morelet, Pfeiffer in Monogr. Hel. Viv., Vol. v. p. 320, No. 2117
1868. *H. Scotti*, Cox, Pfeiffer in Monogr. Hel. Viv., Vol. v. p. 340, No. 2230
1868. *H. (Pomatia) coriaria*, Cox, Monogr. Aust. Land Shells, p. 36, No. 92, pl. 2, fig. 7, pl. 8, fig. 10, pl. 10, fig. 5
1868. *H. (Pomatia) monacha*, Cox, Monogr. Aust. Land Shells, p. 38, No. 98, pl. 18, fig. 13, from Proc. Zool. Soc. London, 1859
1868. *H. (Camana) morosa*, Cox, Monogr. Aust. Land Shells, p. 60, No. 151
1868. *H. (Pomatia) Scotti*, Cox, Monogr. Aust. Land Shells, p. 39, No. 100, pl. 10, fig. 4, 4A
1869. *Galaxias monacha*, Frauenfeld, Verh. k.-k. Zool. Bot. Ges. Wien, p. 875
1876. *H. coriaria*, Pfeiffer, Monogr. Hel. Viv., Vol. vii. p. 272, No. 1803
1876. *H. monacha*, Pfeiffer, Monogr. Hel. Viv., Vol. vii. pp. 322, 579, No. 2227
1876. *H. coriaria* (var.), Hanley and Theobald, Conchologia Indica, Land and Fresh Water Shells of British India, p. 25, pl. 53, fig. 10
1876. *Fruticola coriaria*, Theobald, Catalogue of the Land and Fresh Water Shells of British India, p. 25

1876. *H. gulosa*, Gould, Pfeiffer in Monogr. Hel. Viv., Vol. vii. p. 367 ; quotes it as a synonym of *H. Lessoni*, Pfr.
1876. *H. morosa*, Pfeiffer in Monogr. Hel. Viv., Vol. vii. p. 367, No. 2618
1876. *H. Scotti*, Cox, Pfeiffer in Monogr. Hel. Viv., Vol. vii. p. 394, No. 2788
1877. *H. coriaria*, Pfr., Monogr. Hel. Viv., Vol. viii. p. 574
1878. *H. (Badistes) gulosa*, Gould, Pfeiffer in Nomenclator Heliceorum Viventium, p. 189 ; quotes it as a synonym of *H. Lessoni*, Pfr.
1888. *H. coriaria*, Cox, Handbook of Sydney, for the use of the members of the Australasian Association for the Advancement of Science, p. 84, No. 34
1888. *H. monacha*, Cox, Handbook of Sydney, for the use of the members of the Australasian Association for the Advancement of Science, p. 84, No. 35
1889. *H. (Pomatia) coriaria*, Paetel, Catalog der Conchylien-Sammlung, p. 120
1889. *H. (Pomatia) monacha*, Paetel, Catalog der Conchylien-Sammlung, p. 157
1889. *H. gulosa*, Gld. ist *Lessoni*, Pfr., Paetel, Catalog der Conchylien-Sammlung, p. 137
1890. *H. (Pomatia) gulosa*, Gould, Etheridge, junr., Records of the Australian Museum, Vol. i. No. 1, p. 26
1890. *H. (Hadra) gulosa*, Pilsbry in Tryon's Manual of Conchology, second series, Pulmonata, Vol. vi. p. 131, pl. 33, figs. 66, 67
1890. *H. (Hadra) coriaria*, Pilsbry in Tryon's Manual of Conchology, second series, Pulmonata, Vol. vi. p. 132, pl. 43, figs. 48, 49, 51
1890. *H. (Hadra) Scotti*, Pilsbry in Tryon's Manual of Conchology, second series, Pulmonata, Vol. vi. p. 133, pl. 43, fig. 47

1890. *H. (Hadra) monacha*, Pilsbry in Tryon's Manual of Conchology, second series, Pulmonata, Vol. vi. p. 133, pl. 43, fig. 39
1890. *H. (Hadra) morosa*, Pilsbry in Tryon's Manual of Conchology, second series, Pulmonata, Vol. vi. p. 134, pl. 34, fig. 10
1890. *H. (Hadra) gulosa*, Pilsbry in Tryon's Manual of Conchology, second series, Pulmonata, Vol. vi. p. 304
1891. *Hadra gulosa*, Hedley (Anatomy), Records of the Australian Museum, Vol. i. No. 9, October, p. 196, pl. 29

Habitat.—Illawarra (*Mr. J. Drayton*, 1839); Port Hacking, Sutherland, 353; Heathcote, 626; Waterfall, 720-800 feet above sea level (*J. Brazier*, 1859-1860); Rockdale, Kogarah, Hurstville, 55, 69, 217 feet above sea level, Bulli Pass, 1000 feet (*J. Brazier*, 1864, 1865, 1866); Merimbula, Kiama, Ulladulla (*Mr. George Masters*, 1864, 1865, 1866); Moss Vale, Blue Mountains, 2205 feet above sea level (*J. Brazier*, 1865); Clarence River (*Mr. John Macgillivray*, 1865, 1866); Nullo Mountains, County of Hunter (*Mr. Edward King Cox*, 1867); gullies in Cabbage-tree Scrub at head of Waterfall Gully, Illawarra railway line, at base of ranges and gullies in the Mulgoa Valley, running into the Nepean River, Kurrajong (*Dr. James C. Cox*, 1868, 1888); Wingham, Upper Manning River (*J. Brazier*, June, 1870); Comerong Island, Shoalhaven River (*J. Brazier*, October, 1874); Blackheath, Blue Mountains, 3494 feet above sea level (*J. Brazier*, 1875); Erskine Valley, Nepean River (*J. Brazier*, 1864, 1866, 1888); Cambewarra (*Mr. T. Whitelegge*, 1885); Sassafras Tableland, 5000 feet above sea level (*Messrs. R. Etheridge, Junr.*, and *J. A. Thorpe*, August, 1889); Lawson, Blue Mountains, 2399 feet above sea level (*Mr. E. G. W. Palmer*, June, 1891); Kangaroo Valley, in ranges above the Shoalhaven River (*Messrs. J. A. Thorpe and C. Harris*); Ash Island, Hunter River (*Mr. Alexander Walker Scott*); Mount Keira, Wollongong, 1863 (*Mrs. Edward Forde*); Kiama (*Mr. Simeon P. Hitchcock*, August, 1891); flank of Mount Keira (*Mr. Simeon P. Hitchcock*, December 12, 1891).

The whole of these localities are in the colony of New South Wales. Doubtful localities : Ceylon (*Dr. Pfeiffer on the authority of Mr. Hugh Cuming, 1847*) ; Moreton Bay (*on the authority of Monsieur Morelet, 1853*) ; Western Australia (*Dr. Pfeiffer on the authority of Mr. Hugh Cuming, 1859*). The correct spelling of one of the localities is Nullo Hills, or Mountains, not "Nulla," as quoted by some authors.